

Name: _____

at1113exam: Expand, factor, and solve quadratics (v320)

1. Expand the following expression into standard form.

$$(9x - 2)^2$$

$$81x^2 - 18x - 18x + 4$$

$$81x^2 - 36x + 4$$

2. Expand the following expression into standard form.

$$(5x + 3)(7x - 6)$$

$$35x^2 - 30x + 21x - 18$$

$$35x^2 - 9x - 18$$

3. Expand the following expression into standard form.

$$(5x - 2)(5x + 2)$$

$$25x^2 + 10x - 10x - 4$$

$$25x^2 - 4$$

4. Solve the equation.

$$(3x + 2)(4x + 7) = 0$$

$$x = \frac{-2}{3} \quad x = \frac{-7}{4}$$

5. Factor the expression.

$$49x^2 - 81$$

$$(7x + 9)(7x - 9)$$

6. Solve the equation with factoring by grouping.

$$18x^2 + 15x + 24x + 20 = 0$$

$$(3x + 4)(6x + 5) = 0$$

$$x = \frac{-4}{3} \quad x = \frac{-5}{6}$$

7. Factor the expression.

$$x^2 + 3x - 28$$

$$(x + 7)(x - 4)$$

8. Solve the equation.

$$7x^2 + 19x - 8 = 4x^2 + 5x - 3$$

$$3x^2 + 14x - 5 = 0$$

$$(3x - 1)(x + 5) = 0$$

$$x = \frac{1}{3} \quad x = -5$$